

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A layered composition of a Cu-containing ceramic superconductor layer and a Ag-containing layer having between about 0.1 and about 0.3 atom percent Cu.
2. The layered composition of claim 1, wherein the Cu-containing ceramic superconductor is a member of the YBCO family.
3. The layered composition of claim 1, wherein the Cu-containing ceramic superconductor is a member of the BSCCO family.
4. The layered composition of claim 1, wherein the Cu-containing ceramic superconductor is a member of the TBSCCO family.
5. The layered composition of claim 1, wherein the Cu-containing ceramic superconductor is a member of the HBSCCO family.
6. The layered composition of claim 1, wherein the Ag-containing layer is a substrate.
7. The layered composition of claim 1, wherein the Ag-containing layer is a biaxially aligned or a non-biaxially aligned substrate.
8. The layered composition of claim 1, wherein the Ag-containing layer is a stabilizer.
9. The layered composition of claim 1, wherein the Ag-containing layer is a sheath.
10. The layered composition of claim 1, wherein the Ag-containing layer has about 0.2 atom percent Cu.
11. The layered composition of claim 1, wherein the Ag-containing layer is in direct contact with at least a portion of the Cu-containing ceramic superconductor.
12. The layered composition of claim 1, wherein the Ag-containing layer is present as both a substrate and as a stabilizer.

13. The layered composition of claim 1, wherein the Ag-containing layer is present as both a substrate layer and a stabilizing layer, both layers being in direct contact with at least a portion of the Cu-containing ceramic superconductor.

14. The layered composition of claim 1, wherein the Ag-containing layer is present as one or more of the substrate and the stabilizing layer and the sheath.

15. A biaxially or a non-biaxially aligned Ag or Ag alloy substrate layer having between about 0.1 and about 0.3 atom percent Cu directly in contact with a Cu-containing ceramic superconductor.

16. The composition of claim 15, wherein the Cu-containing superconductor is a member of one or more of the YBCO family or the BSCCO family or the TBSCCO family or the HBSCCO family.

17. The composition of claim 16, wherein a Ag or Ag alloy layer having between about 0.1 and about 0.3 atom percent Cu is a stabilizing layer and/or a sheath in contact with the Cu-containing ceramic superconductor.

18. The composition of claim 17, wherein the Cu-containing ceramic superconductor is a member of the YBCO family.

19. The composition of claim 18, wherein the Cu is present in the Ag or Ag alloy at about 0.2 atom percent.

20. The composition of claim 19 made by the method of forming a biaxially aligned superconductor on a non-biaxially aligned substrate substantially chemically inert to the biaxially aligned superconductor comprising: providing a non-biaxially aligned substrate chemically inert to the superconductor, and depositing a biaxially aligned superconductor material directly on the non-biaxially aligned substrate.